PIN53

COST-UTILITY ANALYSIS OF NEW PNEUMOCOCCAL CONJUGATE VACCINES IN THE REGIONAL IMMUNIZATION PROGRAM OF THE AUTONOMOUS REGION OF MADRID—IMPACT ON INVASIVE PNEUMOCOCCAL DISEASE

Picazo J[1], Mendez C[2], Oyagüez I[3], Casado MA[3], Guijarro P[2]
[1]University Complutense of Madrid, Madrid, Spain; [2]Pfizer Spain, Alcobendas, Madrid, Spain; [3]Pharmacoeconomics & Outcomes Research Iberia, Pozuelo de Alarcón, Madrid, Spain

OBJECTIVES: The inclusion of conjugate pneumococcal vaccines to the Regional Immunization Program avoids cases, among others, of invasive pneumococcal diseases caused by serotypes of Streptococcus pneumoniae contained in the vaccines. Research objective was to assess efficiency of conjugate pneumococcal vaccine- 13 valent (PCV13) versus 10 valent (PCV10), under National Health System perspective. **METHODS:** A cost-utility model was developed to estimate cost per quality adjusted life-year (QALY) associated to primary bacteriemic, empyema, meningitis and bacteriemic pneumonia with vaccine administration in the Autonomous Region of Madrid. The estimation of cases to avoid and serotype coverage was based on epidemiologic information available at regional level. Additionally to direct protection, the model considers the potential indirect effect on the general population. One-way sensitivity analyses were performed, including parameters with most uncertainty. **RESULTS:** PCV13 yields 224 QALYs versus 70 QALYs with PCV10. The incremental ratio is €16,908/QALY gained. Deterministic sensitivity analysis showed that model results are robust, parameter that most influence on the results was vaccine indirect effect. Reducing PCV13 vaccine schedule from 4 to 3 doses was a dominant strategy. **CONCLUSIONS:** The inclusion of PCV13 is a cost-effective strategy versus PCV10. a 3 doses schedule of PCV13 is a dominant option, being a cost-saving measure for the National Healthcare System.

PIN54

COST-EFFECTIVENESS ANALYSES (CEA) OF LOPINAVIR/RITONAVIR (LPV/R) AND ATAZANAVIR PLUS RITONAVIR (ATV + RTV) REGIMENS FOR ANTIRETROVIRAL (ARV) NAÏVE HIV-1 INFECTED PATIENTS BASED ON CASTLE 48-WEEK STUDY: APPLICATION TO SWEDEN

Simpson K[1], Baran R[2], Woodward C[3], Dietz B[4]
[1]Medical University of South Carolina, Charleston, SC, USA; [2]Abbott Laboratories, Abbott Park, IL, USA; [3]Abbott Laboratories, Sinking Springs, PA, USA; [4]Abbott GmbH & Co. KG, Ludwigshafen, Germany, Germany

No differences in viral load (VL) or CD4+ count at 48 weeks were reported for the CASTLE study. However, total cholesterol (TC) levels were elevated in 7% and 18% of subjects receiving ATV + RTV and LPV/r, respectively. These measures can predict outcomes which affect the future cost of HIV in the Swedish health system. **OBJECTIVES:** To compare the incremental cost-effectiveness (ICER) and budget impacts for a population similar to those enrolled in the CASTLE study for Sweden. **METHODS:** Using a previously published Markov model of HIV disease and 2009 cost data from Sweden, we compared the cost/QALY and budget impact of the two ARV regimens. Daily drug costs were 160,52 SEK for ATV + RTV and 147,87SEK for LPV/r. Costing for other health care resources used a health systems perspective with 2009 inputs from www.fass.se and published literature. Costs and QALYs were discounted by 3% when calculating ICERs. **RESULTS:** The CHD risk favored ATV + RTV, resulting in a life expectancy increase of 0.031 QALYs (11 days). The cost-effectiveness ratio for ATV + RTV for Sweden was 1.251.545 SEK /QALY gained. Three times the Swedish GDP in 2008 was 886,670 SEK. Thus the modeled ICER exceeds the WHO criteria for cost-effectiveness by 40%. Sensitivity analysis showed the model was mainly sensitive to ARV price. Five and 10 years per-patient savings for subjects on the LPV/r regimen were estimated to be 21,314 SEK and 32,564 SEK, respectively. **CONCLUSIONS:** Selection of an ATV + RTV based regimen in an ARV-naïve population with a CHD risk similar to subjects in the CASTLE study does not appear to be a cost-effective use of scarce resources for the cost structure seen in Sweden. The costs associated with the very small added CHD risk incurred by LPV/r treatment are more than offset by its short and long term cost savings.

PIN55

RISK SCORES PREDICTING RESOURCE USE OF HEPATITIS C PATIENTS IN GERMANY—AN ANALYSIS OF SICK FUND CLAIMS DATA

Tomeczkowski J[1], Slawik L[1], Guthoff-Hagen S[2], Schreder H[1], Fleischmann J[1]
[1]Janssen-Cilag GmbH, Neuss, Germany; [2]Sgh-Consulting, Hamburg, Germany

OBJECTIVES: To compare costs for hepatitis C patients by analyzing retrospective sick fund claims data. **METHODS:** A representative panel of 1,193,464 patients from several national governmental sick funds were analyzed for 2008. These claims data include all direct medical costs from hospitals, materials in the outpatient sector and medication (covering 60% of sick fund full costs). Selection criteria for patients were at least one confirmed out- or inpatient diagnosis for acute or chronic hepatitis C (ICD-10 GM B17.1 and B18.2). The sample was divided into two groups, those treated with pegylated Interferon/Ribavirin ((peg)INF/Rib) (standard of care for chronic hepatitis C patients according to German guidelines) and those without (identified by ATC Code L03AB and J05AB04). Of these patients all ICD-10 diagnoses were grouped by the DxCG software to hierarchical condition categories in order to calculate risk scores predicting resource use. The expected cost at the average for all insured persons analyzed in this German sick fund panel is represented by a risk score of 2.2. Risk scores and co-morbidities were compared with the sick funds average means. **RESULTS:** A total fo 2628 hepatitis C patients were identified (0.2% of the panel), 245 with and 2383 without (peg)INF/Rib therapy (treatment rate 9.3%). Sixty-two percent of patients with hepatitis C suffered from at least 11 co-morbidities (risk score 8.5), while only 27% of all other patients from the panel suffered from at least 11 co-morbidities. Further analyses revealed additional pharmacy costs of €12,200,- for patients treated with (peg)INF/Rib compared to those without. The risk score for the second year after treatment was 5.7 for (peg)INF/Rib-treated versus 8.7 for (peg)INF/Rib-untreated patients. **CONCLUSIONS:** A diagnosis of hepatitis C is associated with high numbers of co-morbidities and high risk scores. Results suggest that treatment lowers risk scores but keeping them substantially above mean.

INFECTION – Patient-Reported Outcomes Studies

PIN56

REFILL-BASED ADHERENCE RATES OF ANTIRETROVIRAL MEDICATION USING RETROSPECTIVE MEDICINE CLAIMS DATA: A COST ANALYSIS

Paterson T, Lubbe MS, Serfontein JHP, Du Plessis JM
North-West University, Potchefstroom, South Africa

OBJECTIVES: To determine the refill-based adherence rates and to compare the costs associated with an under- or over supply of antiretroviral medication. **METHODS:** A non-experimental, quantitative retrospective drug utilization review was performed on medicine claims data from one pharmacy benefit management company. The study population were selected from all patients (N = 15 901) who received more than one prescription for antiretroviral medication during a 36 consecutive month period (1 January 2005 to December 2007). An overall refill-based adherence rate was calculated by using the following equation: Refill-based adherence rate = (total days of antiretroviral items supplied—days supplied at the last refill)/(date last claimed—date first claimed). (RSA Rand(R)/$US = 6.8595 on 31 December 2007). **RESULTS:** Refill-based adherence rates were calculated for 41 967 antiretroviral drugs. Less than 50% (n = 17 267; 41.15%) of all antiretroviral drugs had acceptable adherence rates (between 90% and 110%). Antiretroviral drugs with adherence rates below 90% (possibly under-supplied) (n = 7243; 17.26%), accounted for 14.30% (n = R15 829 876.53) of the total cost of all antiretroviral drugs (N = R110 728, 214.00) while those that were possibly over-supplied (n = 17,454; 41.59%) accounted for 25.60% (R28 347 266.48). **CONCLUSIONS:** The calculated refill adherence rates indicated that most antiretroviral drugs were either possibly over- or under-supplied for the specific treatment period.

PIN57

EVALUATION OF MEDICATION ADHERENCE IN PATIENTS RECEIVING ANTIRETROVIRAL THERAPY (ART) IN MAITAMA DISTRICT HOSPITAL, ABUJA NIGERIA

Agu KA[1], Okojie O[2], Omonaiye O[1], Oqua D[1], King RC[3], Onuoha C[1], Muhammadu I[1], Iyaji PG[1]
[1]Howard University PACE Center, Abuja, FCT, Nigeria; [2]University of Benin, Benin, Edo, Nigeria; [3]Howard University PACE Center, Washington, DC, WA, USA

OBJECTIVES: ART has dramatically increased the life expectancy of HIV-infected patients and its adherence has been strongly correlated with viral suppression, reduced rates of resistance, an increase in survival, and improved quality of life. The study evaluated medication adherence, the association of medication adherence with occupation and educational status and identified possible causes of non-adherence in HIV-infected patients after 6 months on ART. **METHODS:** In a cross-sectional survey, medication adherence of 118 HIV-infected patients was evaluated using a self-administered study-specific 16-items questionnaire after 6 months on ART. Patients' self-report adherence assessment method was used. Chi square statistics was used to test the association of adherence with occupation and education at 95% CI. **RESULTS:** The mean age of the 118 HIV-infected ART patients was 33.89 (95%CI, 29.63–38.15) years; and majority (82.2%) were between the ages of 26–45 years; 60.2% were females, 80.5% attained secondary education at the least, while 77.1% employed. All participants reported being counselled on the benefits of ART and medication adherence at ART initiation. On assessment of participants' knowledge of the benefits of ART and medication adherence, 92.2% reported correctly, 2.9% reported wrongly that ART is a cure for HIV while 4.9% did not respond. Medication adherence level reported among participants was 79.1%. Educational status was not associated with adherence ($p > 0.05$) unlike the occupational status which was associated with adherence ($P < 0.05$). The major reasons reported for non-adherence were busy at work or school (33.1%), forgetfulness (15.5%), fasting (12.0%), and travelled or moved away from home (10.6%). **CONCLUSIONS:** The medication adherence level among participants was somewhat poor compared to the desired value of >95%; occupational status was associated with adherence unlike the educational status. Consequently, busy at work or school was a major reason for non-adherence to medication. Routine evaluation of medication adherence and intervention in clinical practice is recommended.